

Claims:

1. Drive device for a energy input mechanism (8) operating a wind turbine comprising two counter-rotative propellers, the first one (10, 100) being facing the wind flow, while the second one (11) is placed behind the first propeller,
- the wind turbine including:
- an epicycloidal multiplier,
- a first shaft (12) supporting the first propeller (10) linked to a train of planetary wheels 17 of the epicycloidal multiplier,
- a second shaft (13) supporting the second propeller (11) linked to the crown wheel (18) of the epicycloidal multiplier,
- the solar wheel (19) of said epicycloidal multiplier being connected to a third shaft (19) driving the afore-mentioned energy input mechanism.
2. Drive device according to claim 1, wherein the epicycloidal multiplier is lodged in the hub of the second propeller.
3. Drive device according to claim 1, wherein the second shaft (13) is hollow and coaxially disposed around the first shaft (12).
4. Drive device according to claim 2, wherein the second shaft (13) is hollow and coaxially disposed around the third shaft (19).
5. Drive device according to one of the preceding claims, wherein it further comprises a braking system (19) that acts simultaneously on the hollow shaft (13) and on the inner shaft (12, 19)
6. Drive device according to claim 5, wherein the braking system (15) includes a pressure mechanism (31a, 31b) commanded by an activation mechanism (32a, 32b), able to act simultaneously by rubbing against the outer armature of second shaft (13) to slow it down, able to press against a plurality of tappets (30) located in the radial

openings (130) arranged around the second shaft, wherein these tappets rub against the outer armature of shaft (12, 19) and slow down the second shaft (13) inside which the first one is coaxially placed.

5 7. Drive device according to claim 6, wherein the pressure mechanism is composed of two half-drums (31a, 31b).

8. Drive device according to claim 6, wherein the pressure mechanism is composed of a ribbon braking system.

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9. Drive device according to one of the claims 6 to 8, wherein the activation mechanism includes at least one hydraulic, pneumatic or electromechanical jack (32a).

10. Drive device according to one of the claims 6 to 8, wherein the activation
15 mechanism includes at least one mechanical cam system (32b).

11. Drive device according to one of the preceding claims, wherein it is associated to an energy input mechanism that is an electric generator.

20 12. Drive device according to one of the preceding claims, wherein it is associated with two propellers (10, 11) that bear different aerodynamic characteristics.

13. Drive device according to claim 12, wherein the outer rotation diameters of both propellers are different.

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14. Drive device according to claim 13, wherein the rotation diameter of the first propeller (10, 100) is inferior to that of the second propeller (12).

15. Drive device according to one of the claims 12 to 14, wherein at least one of
30 the two propellers (100) rotates around a conical surface that generates an angle α with a plane perpendicular to the rotation axis of the propeller.

16. Drive device according to claim 15, wherein angle α is below 10° .

17. Drive device according to claim 15, wherein angle α is below 5° .

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18. Drive device according to claim 15, wherein angle α is below 3° .

19. Drive device according to one of the claims 12 to 18, wherein the longitudinal axis of each blade (102, 103) is curved.

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20. Windmill provided with two counter-rotative propellers and comprising a drive device according to in one of the preceding claims.